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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,355	02/05/2001	Terry McDaniel	SEAG5130/JAS	5182

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EXAMINER

DINH, TAN X

ART UNIT PAPER NUMBER

2653

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/777,355

Applicant(s)

MCDANIEL ET AL.

Examiner

TAN X. DINH

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-23,47-57 is/are allowed.
- 6) ☒ Claim(s) 24-30,34-46 is/are rejected.
- 7) ☐ Claim(s) 31-33 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

1) The amendment filed 5/27/2004 is acknowledged. Claim 1-7 have been canceled. New claims 19-57 are currently been added.

2) The drawings were received on 5/27/2004. These drawings are acceptable by the Examiner. Applicant must submit a NEW FORMAL DRAWING including change(s) required by the Examiner in previously Office action.

3) Claims 39-46 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The original disclosure fails to specify that the copy layer has coercivity between 1KOe - 2KOe. This limitation is considered to be new matter.

3) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4) This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5) Claims *24,25,30 and 43*, as understood by the meaning of 112, 1st above, are rejected under 35 U.S.C. 103(a) as being unpatentable over KIM (6,141,297).

KIM discloses a magneto-optical recording medium as claimed in claims 24 having a source of heat (Fig.9, laser beam), a substrate (Fig.9, substrate 21), a write layer comprises ferromagnetic material (column 6, lines 21-30. In this case, the recording layer (write layer) is formed of TbFeCo, which is ferromagnetic material), a copy layer comprises ferromagnetic material (column 6, lines 1-11. In this case reproduction layer (copy layer) is formed of Co/Pt, which is ferromagnetic material), except to specifically show that the coercivity force of copy

layer is less than write layer. It would have been obvious to use a copy layer has coercivity force less than write layer in KIM's magneto-optical storage medium because:

The fabricating of magneto-optical recording medium with ferromagnetic materials have been known in the art, the ferromagnetic materials have H_c which decreases around the Curie temperature and allow data recording based on this phenomenon. Typical ferromagnetic materials which common used in magneto-optical recording medium such as Co/Pt multi-layers and TbFeCo. Co/Pt multi-layers have the advantage of larger perpendicular magnetic anisotropy, larger Kerr rotation at short wavelengths, lower coercivity force and excellent environmental stability. Therefore, anyone with ordinary skill in the art would use a copy layer of Co/Pt with less coercivity force in KIM's magneto-optical medium for improving the resolution in high density recording and reproducing system.

As to claim 25 and 30 KIM shows write layer comprises TbFeCo and copy layer comprises Co/Pt in column 6, lines 21-30 and column 6, lines 1-11.

As to claim 43, since the new features add to the claim which were not disclose in the original specification, therefore, the rejection of claim 43 is included herein.

6) Claims 26-29,34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over KIM (6,141,297) further in view of

UTSUNOMIYA et al (5,593,789).

KIM discloses all the subject matter claimed as in claims 26, 27 and 38, except to specifically show an intermediate layer of Pt. UTSUNOMIYA et al from the same field teaches a magneto-optical recording medium having an intermediate layer of Pt (figure 6, intermediate layer and column 13, lines 29-65). Since the method as taught by UTSUNOMIYA et al is old and well known, it would have been obvious to someone within the level of skill in the art at the time of the invention was made to use an intermediate layer of Pt in KIM's magneto-optical recording medium as claimed.

As to claims 28 and 29, UTSUNOMIYA et al shows the intermediate layer having thickness of 0.5nm - 5nm (see column 13, line 66 to column 14, line 9. It is noted that $10\text{\AA} = 1\text{nm}$ and $28\text{\AA} = 2.8\text{nm}$).

As to claims 34 and 35, it would have been obvious to use a copy layer of Fe/Pt or CoFe/Pt in KIM's magneto-optical storage medium since this technique has been widely used in the art.

As to claims 36 and 37, KIM shows a substrate (Fig.1, 11), a dielectric layer (Fig.1, 12, 14) and a reflective layer (Fig.1, 15).

7) Claim 31-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in

independent form including all of the limitations of the base claim and any intervening claims.

8) Claims 8-23,47-57 are allowed.

9) Applicant's arguments with respect to claims 8-57 have been considered but are moot in view of the new ground(s) of rejection.

Applicant states that new claims 24 has been rewritten from objecting claim 14 which is incorrect. New claims 24-30 is duplicated from original claims 1-7 which have been canceled. Therefore, new claims 24 and its dependent claims are rejectable as shown above.

10) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire *THREE MONTHS* from the mailing date of this action. In the event a first reply is filed within *TWO MONTHS* of the mailing date of this final action and the advisory action is not mailed until after the end of the *THREE-MONTH* shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than *SIX MONTHS* from the date of this final action.

11) Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAN X. DINH whose telephone number is (703) 308-4859. The examiner can normally be reached on Monday - Friday, 8:00AM - 5:30PM.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).



TAN DINH
PRIMARY EXAMINER
June 7, 2004